

ATTORNEY DOCKET NO: 72239

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : SPRATTE
PCT No : PCT/DE04/002694
Filed : June 9, 2006
For : BALL AND SLEEVE JOINT
Dated : June 9, 2006

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Prior to initial examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Please replace the specification originally filed, with the enclosed substitute specification. A marked up copy of the original specification is attached. Applicant states that no new matter has been added.

IN THE CLAIMS:

1. (Currently Amended) A ball and sleeve joint for a motor vehicle, ~~with the ball and~~
sleeve joint comprising:

_____ a housing (1) ~~and with;~~

a ball sleeve (5), ~~which extends~~ extending out of the housing (1) on both sides, said ball
5 sleeve having ~~has~~ a through hole (8) and a bearing area (4) and ~~[[is]]~~ being mounted with said
bearing area (4) in the housing (1) such that two joint parts, which are rotatable and pivotable
in relation to one another, are formed by the ball sleeve (5) and the housing (1), ~~characterized~~
in that;

_____ a signal transmitter arranged at one of said two joint parts;

10 a sensor (13) arranged at the other of said two joint parts, which interacts with ~~[[a]]~~ said
signal transmitter (2) arranged at ~~the other joint part, is arranged at~~ said one of said joint
parts~~[[,]]~~ ; and

both said sensor (13) and said signal transmitter (2) are arranged between said through
hole (8) and said housing (1).

2. (Currently Amended) A ball and sleeve joint in accordance with claim 1,
~~characterized in that~~ wherein said sensor (13) is arranged in said ball sleeve (5) and said signal
transmitter (2) in said housing (1).

3. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~or 2~~,

~~characterized in that~~ wherein said sensor (13) is arranged in said bearing area (4) of said ball sleeve (5).

4. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the claims 1 through 3~~, ~~characterized in that~~ wherein said signal transmitter (2) is a magnet and said sensor (13) is a magnetic field-sensitive sensor.

5. (Currently Amended) A ball and sleeve joint in accordance with claim 4, ~~characterized in that~~ wherein said sensor (13) is a magnetoresistive sensor.

6. (Currently Amended) A ball and sleeve joint in accordance with claim 4 ~~or 5~~, ~~characterized in that~~ wherein said signal transmitter (2) ~~has an~~ is annular ~~design~~.

7. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the claims 4 through 6~~, ~~characterized in that~~ wherein a bearing shell (3) made of a nonmagnetic material is arranged between said signal transmitter (2) and said bearing area (4) of said ball sleeve (5).

8. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the claims 4 through 7~~, ~~characterized in that~~ wherein said signal transmitter (2) is in contact with said inner wall of said housing (1) ~~and said housing, which consists of~~ and comprises a

ferromagnetic material.

9. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the~~
~~above claims, characterized in that~~ wherein said ball sleeve (5) has an inner sleeve (6) and an
outer sleeve (7) arranged concentrically therewith.

10. (Currently Amended) A ball and sleeve joint in accordance with claim 9,
~~characterized in that~~ wherein said outer sleeve (7) is fixed at said inner sleeve (6) in a positive-
locking manner in the axial direction.

11. (Currently Amended) A ball and sleeve joint in accordance with claim 9 ~~or 10~~,
~~characterized in that~~ wherein said inner sleeve (6) has a two-part design.

12. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the~~
~~claims 9 through 11, characterized in that~~ wherein a cavity (4a), in which said sensor (13) is
arranged, is formed in said bearing area (4) of said ball sleeve (5) between said inner sleeve (6)
and said outer sleeve (7).

13. (Currently Amended) A ball and sleeve joint in accordance with claim 1 ~~one of the~~
~~claims 9 through 12, characterized in that~~ wherein said electric wires (14) connected to said
sensor (13) are laid between said inner sleeve (6) and said outer sleeve (7).

14. (Currently Amended) A ball and sleeve joint in accordance with claim 13, ~~characterized in that~~ wherein an axial groove (16), in which ~~said~~ electric wires (14) connected to said sensor (13) extend, ~~[[is]]~~ said axial groove being provided in the surface of the inner sleeve (6).

15. (Currently Amended) A ball and sleeve joint in accordance with claim 14, ~~characterized in that~~ wherein said electric wires (14) are designed as said strip conductors of a printed circuit board (15) arranged in said axial groove (16).

16. (Currently Amended) A ball and sleeve joint in accordance with claim 14 ~~one of the claims 13 through 15~~, ~~characterized in that~~ wherein said electric wires (14) are led out of the area between said inner sleeve (6) and said outer sleeve (7) in an end area (5a) of said ball sleeve (5).

17. (Currently Amended) A ball and sleeve joint in accordance with claim 16, ~~characterized in that~~ further comprising: a second housing (18) for contacting said sensor (13) ~~[[is]]~~ arranged at the end area (5a) of said ball sleeve (5), in which said electric wires (14) are led out of the area between said inner sleeve (6) and said outer sleeve (7).

18. (Currently Amended) A ball and sleeve joint in accordance with ~~one of the claims 9 through 17~~, ~~characterized in that~~ claim 9, wherein said outer sleeve is manufactured by a

forming method without cutting.

19. (Currently Amended) A ball and sleeve joint in accordance with claim 18,
~~characterized in that~~ wherein said outer sleeve is a hydroformed part.

20. (New) A motor vehicle ball and sleeve joint comprising:

a housing;

a ball sleeve having a through hole and a bearing area and being mounted with said
bearing area in the housing extending out of said housing on each of two sides, said ball sleeve
being rotatable and pivotable in relation to said housing;

a signal transmitter arranged at one of said housing and said ball sleeve;

a sensor arranged at the other of said housing and said ball sleeve, said sensor
interacting with said signal transmitter, said sensor and said signal transmitter being arranged
between said through hole and said housing.

REMARKS

Claims 1 through 20 are in this application and are presented for consideration. Claims 1 through 19 have been amended. The amended claims present the same subject matter as the original claims but have been amended to adapt them to the U. S. style. New claim 20 presents subject matter similar to original claim 1, but in a different form.

The specification and claims have been amended in order to place this application in better form. The reference to claims in the specification has been deleted or amended. Appropriate headings have been added. No new matter has been added.

Favorable action on the merits is respectfully requested.

Respectfully submitted
for Applicant,



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JJM:jj
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Enclosed: Substitute Specification and Marked up copy of Translation

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SHOULD ANY OTHER FEE BE REQUIRED, THE PATENT AND TRADEMARK OFFICE IS HEREBY REQUESTED TO CHARGE SUCH FEE TO OUR DEPOSIT ACCOUNT 13-0410.